

REMARKS/ARGUMENTS

Favorable reconsideration of this application, in view of the present amendment and in light of the following discussion, is respectfully requested.

Claims 1-20 are pending. In the outstanding Office Action, Claims 3, 8, 11, 12, and 14 were withdrawn. In the present amendment, Claim 1 is currently amended and new Claims 15-20 are added. Support for the present amendment can be found in the original specification, for example, at page 6, lines 5-9, at page 9, lines 1-3, at page 10, lines 9-13, and at page 13, line 8 to page 16, line 8. Thus, it is respectfully submitted that no new matter is added.

In the outstanding Office Action, Claims 1, 2, 4-6, 9, 10, and 13 were rejected as unpatentable over Miyazawa et al. (U.S. Patent No. 5,653,357, hereinafter “Miyazawa”) in view of either one of Saunders et al. (U.S. Patent No. 5,590,558, hereinafter “Saunders”) or Fujimoto et al. (U.S. Patent No. 5,901,601, hereinafter “Fujimoto”); and Claim 7 was rejected under 35 U.S.C. §103(a) as unpatentable over Miyazawa in view of either one of Saunders or Fujimoto, and further in view of Shimizu et al. (U.S. Patent No. 5,686,194, hereinafter “Shimizu”).

In response to the rejections under 35 U.S.C. §103(a), Applicant respectfully requests reconsideration of these rejections and traverses these rejections, as discussed below.

Amended Claim 1 recites a method for fabricating a composite part. The method includes forming the composite laminate sheet or sheet blank by drawing to obtain said composite part without re-drawing the composite laminate sheet or sheet blank. The drawing is carried out in a drawing tool comprising a punch, a die, and a blank holder by adjusting the value of the material passage P_m between a punch and the die so that: $E - 0.80 \times E_p \leq P_m \leq E$. As explained in the original specification, for example, at page 10, lines 9-13, the sheet or blank is drawn to apply the punch either to the side of the sheet or the blank coated with the

polymer adhesive film. Accordingly, the specification does not describe that the material is redrawn. Additionally, each of the blanks described in the examples on page 13, line 8 to page 16, line 8 are described as being subjected to a controlled deformation test using a drawing press. Thus, the blanks are drawn and are not redrawn to form the buckets.

Additionally, as explained in the original specification, for example, at page 10, line 33 to page 11, line 11, if P_m is higher than E , faults begin to form and if P_m is lower than $E - 0.80 E_p$, the part is liable to tear. Therefore, the limit values of E and $E - 0.80 E_p$ are specific for drawing a steel sheet coated with a polymer film with the constant thickness defined above. It is respectfully submitted that the cited combination of references does not disclose or suggest every feature recited in amended Claim 1.

The first combination cited in the Office Action is Miyazawa in view of Saunders. Miyazawa describes a container including a wall portion 3 which comprises a metal base member 6 and a laminated film 9.¹ Miyazawa describes that the thickness of the metal base member 6 can be from 0.1 to 0.5 mm and that the thickness of the laminated film 9 can be from 0.002 to 0.1 mm.² The Office Action acknowledges in the first paragraph on page 3 that Miyazawa “is silent as to the adjusting the value of the material passage.” Instead, the Office Action relies on Saunders to cure this deficiency of Miyazawa.

Saunders describes a method of forming cans that includes a drawing step in which the preselected tooling clearance is equal to the can stock thickness and a re-drawing step in which the clearance at the die sidewall is less than the gauge of the can stock.³

However, it is respectfully submitted that the cited combination does not disclose or suggest “forming the composite laminate sheet or sheet blank by drawing to obtain said composite part without re-drawing the composite laminate sheet or sheet blank, the drawing being carried out in a drawing tool comprising a punch, a die, and a blank holder, by

¹ See Miyazawa, at column 6, lines 6-14 and in Figure 2.

² See Miyazawa, at column 6, lines 61-67 and at column 8, lines 20-27.

³ See Saunders, at column 6, lines 14-21 and at column 9, line 41 to column 10, line 16.

adjusting the value of the material passage P_m between the punch and the die, so that: $E - 0.80 \times E_p \leq P_m \leq E$ ” as recited in Claim 1.

Instead, because Saunders describes both drawing and re-drawing, a person of ordinary skill in the art would not pick and choose only the drawing from Saunders because Saunders describes that re-drawing is necessary to form the can. Accordingly, a person of ordinary skill in the art, in combining Saunders with Miazawa, would utilize both the drawing and re-drawing tolerances from Saunders. Although Saunders does describe that the preselected tooling clearance *during the drawing* is equal to the can stock thickness, a “patent composed of several elements is not proved obvious merely by demonstrating that each element was, independently, known in the prior art.” KSR Int. Co. V. Teleflex Inc., 82 USPQ2d 1385, 1389 (2007). Instead, The Supreme Court stated the importance of identifying “a reason that would have prompted a person of ordinary skill in the art to combine the elements as the new invention does.” Id. As discussed above, Applicant respectfully submits that a person of ordinary skill in the art would not pick and choose amongst the elements as the Office Action does.

Accordingly, it is respectfully requested that the rejection of Claim 1, and all claims dependent thereon, as unpatentable over Miazawa in view of Saunders be withdrawn.

The Office Action also rejects Claim 1 as unpatentable over Miazawa in view of Fujimoto. As discussed above, the Office Action acknowledges that Miazawa “is silent as to the adjusting the value of the material passage.” Instead, the Office Action relies on Fujimoto to cure this deficiency of Miazawa. Fujimoto describes a press 10 adapted for bending opposite ends of a metal plate.⁴ Fujimoto also describes that a clearance C between

⁴ See Fujimoto, at column 3, lines 42-57 and in Figure 1.

the side face 14s of the recess 14m of the die 14 and the side face 12s of the punch 12 is set to be approximately equal to the thickness of the metal plate W.⁵

However, it is respectfully submitted that the cited combination of Miazawa in view of Fujimoto does not disclose or suggest “forming the composite laminate sheet or sheet blank by drawing to obtain said composite part without re-drawing the composite laminate sheet or sheet blank, the drawing being carried out in a drawing tool comprising a punch, a die, and a blank holder, by adjusting the value of the material passage P_m between the punch and the die, so that: $E - 0.80 \times E_p \leq P_m \leq E$,” as recited in amended Claim 1.

Instead, as discussed above, Fujimoto describes that the plate W is only made of metal. Thus, Fujimoto is silent with regard to the clearance C of a metal plate W including a polymer film coating on the metal. Therefore, a person of ordinary skill in the art would not know from Fujimoto whether the clearance C would remain the same, be increased, or be decreased if the metal plate W is coated with a polymer film.

As explained in the original specification, for example, at page 11, lines 6-11, the equation recited in Claim 1 is linked to the interaction between a polymer film and the metal. Thus, the equation recited in Claim 1 overcomes the problem of drawing a metal that has been coated with an organic film. The difficulty in drawing such a product is directly linked to the fact that the polymer and the metal have very different properties. The person of ordinary skill in the art reading Miazawa in view of Fujimoto would not understand how to solve this problem according to these references. Thus, a person of ordinary skill in the art would not utilize the thickness C of Fujimoto with the metal base member 6 and laminated film 9 of Miazawa.

Accordingly, it is respectfully submitted that the combination of Miazawa in view of Fujimoto does not disclose or suggest every feature recited in amended Claim 1. Thus, it is

⁵ See Fujimoto, at column 4, lines 12-15 and in Figure 1.

respectfully requested that the rejection of Claim 1, and all claims dependent thereon, as unpatentable over Miazawa in view of Fujimoto be withdrawn.

Turning now to the rejection of Claim 7 as unpatentable over Miazawa in view of either Saunders or Fujimoto, and further in view of Shimizu, it is noted that Claim 7 is dependent on Claim 1 and thus believed to be patentable for the reasons discussed above with respect to Claim 1. Further, it is respectfully submitted that Shimizu does not cure the above-noted deficiencies of the combinations of Miazawa in view of either Saunders or Fujimoto, and further in view of Shimizu. Thus, it is respectfully requested that the rejection of Claim 7 be withdrawn.

New Claims 15-20 are added by the present amendment. Support for new Claims 15-20 can be found in the original specification, for example, at page 6, lines 5-9, at page 9, lines 1-3, at page 10, lines 9-13, and at page 13, line 8 to page 16, line 8. Thus, it is respectfully submitted that no new matter is added. New Claims 15 and 16 are dependent on Claim 1, and thus are believed to be patentable for at least the reasons discussed above with respect to Claim 1.

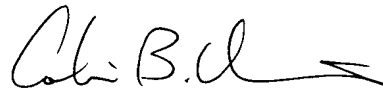
New Claim 17 is an independent claim that recites, in part, a method for fabricating a composite laminate part comprising “forming by initially drawing the composite laminate sheet or sheet blank to obtain said composite part, the drawing being carried out in a drawing tool comprising a punch, a die, and a blank holder, by adjusting the value of the material passage P_m between the punch and the die, so that: $E - 0.80 \times E_p \leq P_m < E$.” Accordingly, as can be seen in the examples of the invention on page 15, when the distance P_m between the die and the punch is less than E , the method recited in Claim 17 provides well-formed buckets, without folding or tears of the zinc precoat, whereas the comparative buckets have tearing of the zinc precoat, breakage of the bucket, and/or intense formation of folds.

As discussed above, both Saunders and Fujimoto describe in the initial drawing step a clearance being equal to a thickness of either the can stock thickness in Saunders or the metal plate W in Fujimoto. Accordingly, it is respectfully submitted that none of the cited combinations of references disclose or suggest the distance between the die and the punch in the initial drawings step being less than the thickness of the steel sheet plus the adhesive polymer film coated on the steel sheet. Therefore, it is respectfully submitted that Claim 17, and new Claims 18-20 which depend thereon, patentably define over the cited references.

Consequently, in view of the present amendment, no further issues are believed to be outstanding in the present application and the present application is believed to be in condition for formal allowance. A notice of allowance is earnestly solicited.

Respectfully submitted,

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